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| 10/723,924 | 11/26/2003 | Erik J. Burckart | RSW920030239US1 (131) | 9787 |

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| 46320          7590          09/07/2007 | | EXAMINER |
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

| | Application No. | Applicant(s) |
|---|---|---|
| **Office Action Summary** | 10/723,924 | BURCKART ET AL. |
| | Examiner | Art Unit | |
| | Daniel Murray | 2143 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1) ☒ Responsive to communication(s) filed on <u>29MAY2007</u>.

2a) ☒ This action is **FINAL**.   2b) ☐ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4) ☒ Claim(s) <u>1-24</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) <u>1-24</u> is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9) ☒ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All   b) ☐ Some * c) ☐ None of:

      1. ☐ Certified copies of the priority documents have been received.

      2. ☐ Certified copies of the priority documents have been received in Application No. _____.

      3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

# DETAILED ACTION

1.      This Action is in response to Applicant's amendment filed on 29MAY2007. **Claims 1-24** are

now pending in the present application. **This Action is made FINAL.**

## *Specification*

2.      The title of the invention is not descriptive.  A new title is required that is clearly indicative

of the invention to which the claims are directed.

3.      The disclosure is objected to because of the following informalities:

a) Paragraph [0020] lines 1-3, the use of "synchronize" before " the array" is unclear because

it fails to clearly point out with what exactly the array is being synchronized.

Appropriate correction is required.

## *Claim Rejections - 35 USC § 103*

4.      The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness

rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.  Patentability shall not be negatived by the manner in which the invention was made.

5.      The factual inquiries set forth in *Graham* v. *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966),

that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a)

are summarized as follows:

1.      Determining the scope and contents of the prior art.
2.      Ascertaining the differences between the prior art and the claims at issue.
3.      Resolving the level of ordinary skill in the pertinent art.

4.      Considering objective evidence present in the application indicating obviousness or nonobviousness.

6.      This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7.      **Claims 1 and 3-24** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Batra (US Patent # 6,105,067)** in view of **Chintalapati et al. (US Patent Publication # US 2002/0156897 A1).**

a) Consider **claim 1,** Batra clearly shows and discloses, a connection pool management system comprising: a connection pool 120 configured to store a plurality of idle connections (figure 4, column 1 lines 10-14, column 3 lines 1-6 lines 24-26, column 7 lines 61-64column 11 lines 51-59); and, a connection manager 110 programmed for coupling to said connection pool 120 (figure 4, column 3 lines 45-54, column 7 lines 42-54, column 11 lines 41-59) and further programmed to validate one of said idle connections (idle connections in which the elapsed time is greater than the maximum age are disconnected and returned to the pool, i.e. the are deemed invalid)(column 11 lines 41-59 column 12 lines 1-16). However, Batra does not specifically disclose issuing a non-blocking input/output (I/O) operation to each of said individual ones of said idle connections.

In the same field of endeavor, Chintalapati et al. discloses a mechanism for servicing connections by disassociating processing resources from idle connections and monitoring idle

connections for activity wherein a poll adapter is able to use asynchronous (non-blocking

input/output (I/O) operation) features of the operating system to monitor connections for activity

(paragraph [0017], paragraph [0018], paragraph [0023], paragraph [0024]).

Therefore it would have been obvious to a person of ordinary skill in the art at the time the

invention was made to incorporate the teachings of Chintalapati et al. into the teachings of Batra in

order to validate individual idle connections by issuing an asynchronous (non-blocking) operation.

Such a feature would have made the overall system of Batra more efficient by not issuing blocking

operations to idle connections that would waste resources in order to validate idle connections

(paragraph [0017], paragraph [0018]).

b) Consider **claim 3,** and **as applied to claim 1 above,** Batra as modified by Chintalapati et

al. clearly shows and discloses the claimed invention except that said connection pool 120 comprises

a configuration for a last-in first-out (LIFO) ordering of said idle connections.

Nonetheless, the Examiner takes Official Notice of the fact that it is notoriously well known

in the art that idle connections could be stored in a data structure configuration for a last-in first-out

(LIFO) ordering.

Therefore it would have been obvious to one of ordinary skill in the art at the time the

invention was made to use a last-in first-out (LIFO) ordering, as known in the art, in the system of

Batra as modified by Chintalapati et al. for the purpose of storing connections in a last-in first-out

(LIFO) ordering.

c) Consider **claim 4,** and **as applied to claim 1 above,** Batra as modified by Chintalapati et

al. clearly shows and discloses, said connection pool 120 comprises a configuration for storing a

global timestamp indicating a time value when an oldest one of idle connections had been added to

said connection pool 120 (column 11 lines 41-59).

d) Consider **claims 5 and 15,** Batra clearly shows and discloses, a connection pool

management method and a machine readable storage having stored thereon a computer program for

connection pool management comprising the steps of: responsive to adding a first one of a plurality

of idle connections to a connection pool 120, recording a global timestamp to indicate a time value

when said first idle connection had been added to said connection pool 120 (column 11 lines 41-59);

responsive to adding subsequent ones of said idle connections to said connection pool 120,

recording individual timestamps in said connection pool 120 in association with corresponding ones

of said subsequent ones of said idle connections(column 11 lines 44-54, column 12 lines 1-4 lines

12-16); comparing a timestamp of an oldest one of said idle connections to said global timestamp to

determine whether a timeout condition has arisen and (column 11 lines 41-59); and responsive to

determining that said timeout condition has arisen (periodically invoking a process to inspect

connections)(column11 lines 51-54), probing at least one of said idle connections in order to validate

said at least one of said idle connections (idle connections in which the elapsed time is greater than

the maximum age are disconnected and returned to the pool, i.e. the are deemed invalid)(column 11

lines 41-59 column 12 lines 1-16). However, Batra does not specifically disclose probing at least one

of said idle connections with a non-blocking input/output (I/O) request.

In the same field of endeavor, Chintalapati et al. discloses a mechanism for servicing

connections by disassociating processing resources from idle connections and monitoring idle

connections for activity wherein a poll adapter is able to use asynchronous (non-blocking

input/output (I/O) operation) features of the operating system to monitor connections for activity

(paragraph [0017], paragraph [0018], paragraph [0023], paragraph [0024]).

Therefore it would have been obvious to a person of ordinary skill in the art at the time the

invention was made to incorporate the teachings of Chintalapati et al. into the teachings of Batra in

order to validate individual idle connections by issuing an asynchronous (non-blocking) operation.

Such a feature would have made the overall system of Batra more efficient by not issuing blocking

operations to idle connections that would waste resources in order to validate idle connections

(paragraph [0017], paragraph [0018]).

e) Consider **claims 6 and 16,** and **as applied to claims 5 and 15 above,** Batra as modified

by Chintalapati et al. clearly shows and discloses, said comparing step comprises the step of

comparing a timestamp associated with a least recently added connection in said connection pool to

said global timestamp to determine whether said timeout condition has arisen (column 11 lines 44-

59).

f) Consider **claims 7 and 17,** and **as applied to claims 5 and 15 above,** Batra as modified

by Chintalapati et al. clearly shows and discloses, said comparing step comprises the steps of:

summing said global timestamp and a pre-established timeout value (column 11 lines 45-54);

comparing said timestamp of said oldest one of said idle connections with said summed global

timestamp and pre-established time out value (column 11 lines 45-49); and, if said timestamp

exceeds of said oldest one of said idle connections exceeds said summed global timestamp and pre-

established timeout value, concluding that said timeout condition has arisen (column 11 lines 51-59).

g) Consider **claims 8 and 18,** and **as applied to claims 5 and 15 above,** Batra as modified

by Chintalapati et al. clearly shows and discloses, said probing step comprises the steps of:

sequentially performing timestamp comparisons with said global timestamp for each of said idle

connections in said connection pool 120 (column 11 lines 51-65); However, Batra does not

specifically disclose that for each one of said idle connections having a timestamp which exceeds a

combination of said global timestamp and a pre-established timeout value, attempting a non-

blocking I/O operation over said one of said idle connections.

In the same field of endeavor, Chintalapati et al. discloses a mechanism for servicing

connections by disassociating processing resources from idle connections and monitoring idle

connections for activity wherein a poll adapter is able to use asynchronous (non-blocking

input/output (I/O) operation) features of the operating system to monitor connections for activity

(paragraph [0023], paragraph [0024]).

Therefore it would have been obvious to a person of ordinary skill in the art at the time the

invention was made to incorporate the teachings of Chintalapati et al. into the teachings of Batra in

order to attempt an asynchronous (non-blocking) operation in which a timestamp which exceeds a

combination of said global timestamp and a pre-established timeout value. Such a feature would

have made the overall system of Batra more efficient by not issuing blocking operations to idle

connections that would waste resources in order to validate idle connections when a timeout

condition occurs.

h) Consider **claims 9 and 19,** and **as applied to claims 5 and 15 above,** Batra as modified

by Chintalapati et al. clearly shows and discloses, further comprising the step of updating said global

timestamp with a new value subsequent to probing said at least one of said idle connections (column

11 lines 41-59).

i) Consider **claims 10 and 20,** and **as applied to claims 5 and 15 above,** Batra as modified

by Chintalapati et al. clearly shows and discloses the step of provisioning one of said idle

connections responsive to a request to provision an idle connection in said connection pool 120

(column 9 lines 66-67, column 10 lines 1 -16). However, Batra as modified by Chintalapati et al. fails

to disclose that the idle connection to be provisioned is a most recently used idle connection.

Nonetheless, the Examiner takes Official Notice because a last-in first-out (LIFO) ordering

is used to store the idle connections that the most recently used idle connection (i.e. last-in) would

be the first idle connection provisioned (i.e. first-out) should a request for a connection be made.

Therefore it would have been obvious to one of ordinary skill in the art at the time the

invention was made to use a last-in first-out (LIFO) ordering, as known in the art, in the system of

Batra as modified by Chintalapati et al. for the purpose of storing connections in a last-in first-out

(LIFO) ordering such that the most recently used connection would be the first one used for the

next request for an idle connection.

j) Consider **claims 11 and 21,** and **as applied to claims 10 and 20 above,** Batra clearly

shows and discloses, said provisioning step further comprises the steps of: probing said provisioned

idle connection (column 9 lines 66-67, column 10 lines 1-5), where said provisioned idle connection

fails to validate, provisioning another one of said idle connections (inherent from the teachings of

Batra since all idle connections are checked if one fails the test the next connection will)(column 10

lines 9-14). However, Batra does not specifically disclose probing said provisioned idle connection

with a non-blocking input/output (I/O) request in order to validate said provisioned idle

connection or removing said provisioned idle connection from said connection pool 120.

In the same field of endeavor, Chintalapati et al. discloses a mechanism for servicing

connections by disassociating processing resources from idle connections and monitoring idle

connections for activity wherein a poll adapter is able to use asynchronous (non-blocking

input/output (I/O) operation) features of the operating system to monitor connections for activity

(paragraph [0023], paragraph [0024]). Furthermore, Chintalapati et al. discloses that if said idle

connection is found to be active it is passed to a work queue to await servicing by a processing

resource (paragraph [0023] lines 7-9).

Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the teachings of Chintalapati et al. into the teachings of Batra in order to attempt an asynchronous (non-blocking) operation in order to probe connections in the connection pool 120 and to remove any connections found which failed to validate. Such a feature would have made the overall system of Batra more efficient by not issuing blocking operations to idle connections that would waste resources in order to validate idle connections and removing connections from the connection pool 120 which failed to validate so that system resources would not be wasted by probing connections which could not be used during subsequent requests for an idle connection.

k) Consider **claims 12 and 22,** and **as applied to claims 5 and 15 above,** Batra as modified by Chintalapati et al. clearly shows and discloses the claimed invention except the step of adding each of said idle connections to said connection pool 120 in a last-in first-out (LIFO) manner.

Nonetheless, the Examiner takes Official Notice of the fact that it is notoriously well known in the art that idle connections could be added to a connection pool 120 in a last-in first-out (LIFO) order.

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to use a last-in first-out (LIFO) ordering, as known in the art, in the system of Batra as modified by Chintalapati et al. for the purpose of storing connections in a last-in first-out (LIFO) order.

l) Consider **claims 13 and 23,** and **as applied to claims 12 and 22 above,** Batra as modified by Chintalapati et al. clearly shows and discloses, said adding step further comprises the step of recording a timestamp in said connection pool 120 for each added one of said idle

connections to indicate when said added one of said idle connections had been added to said connection pool 120 (column 11 lines 45-51).

m) Consider **claims 14 and 24,** and **as applied to claims 5 and 15 above,** Batra as modified by Chintalapati et al. clearly shows and discloses, further comprising the step of removing from said connection pool each said idle connection which fails validation in said probing step (column 111 lines 40-65, column 12 lines 10-16).

8.      **Claims 2** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Batra (US Patent # 6,105,067)** as modified by **Chintalapati et al. (US Patent Publication # US 2002/0156897 A1)** in further view of **Brock et al. (US Patent # US 7,076, 556 B1).**

a) Consider **claim 2,** and as applied to **claim 1** above, Batra as modified by Chintalapati et al. clearly shows and discloses, a timestamp data member (wherein a timestamp is associated with each connection)(column 11 lines 45-54, column 12 lines 1-4 lines 12-16) and a reference to one of said idle connections (inherent from the teachings of Batra since each connection is stored in the connection pool and reference to the connection must be present)(column 11 lines 45-51, column 12 lines 1-4). However, Batra as modified by Chintalapati et al. does not specifically disclose that said connection pool 120 has an array configuration.

Brock et al. shows and discloses a method and apparatus for the storage and retrieval of connection data in a communications system that stores connections in a last-in-first-out stack (array) arrangement (column 4 lines 16-17).

Therefore, it would have been obvious to one of ordinary skill in the art to incorporate the teachings of Brock et al. into the system of Batra as modified by Chintalapati et al. for the purpose storing connections (abstract, column 4 lines 7-20).

## *Response to Arguments*

9.      Applicant's arguments filed 29MAY2007 have been fully considered but they are not persuasive.

10.     Applicant argues with respect to claims 1, 5, and 15 that "validating a idle connection by issuing a non-blocking I/O operation to the idle connection" is completely absent for the teachings of Chintalapati et al., that there is no support for the probing step "responsive to determining that a timeout condition has arisen", that the Examiner's determination of obviousness was based on hindsight, and that "Applicant's disclosure if forbidden territory for the examiner to obtain the requisite rationale for combining the applied prior art".

The Examiner respectfully disagrees with Applicants argument that "validating a idle connection by issuing a non-blocking I/O operation to the idle connection" is completely absent for the teachings of Chintalapati et al. Batra in fact teaches the validation of a connection. Connections are periodically inspected and the elapsed time for the connection is compared to a maximum age value. If the elapsed time is larger the connection returned to the connection pool (column 12 lines 1-16). Chintalapati et al. teaches the use of asynchronous features of the operating system to monitor the connections for activity and determines whether or not the connection remains active or idle (i.e. ready for use)(paragraph [0017], paragraph [0018], paragraph [0023]). The feature of Chintalapati et al. relied upon is the use of asynchronous operations for the monitoring of connections and thus does not teach away from the claimed invention.

In response to applicant's argument that there is no support in Chintalapati et al. for the probing step occurring "responsive to determining that a time out condition has arisen". Chintalapati et al. shows and discloses that the connection manager periodically invokes a process

which inspects each connection marked as not being in use, and compares the last-used timestamp

to the current system time (column 11 lines 51-54). A timeout is an event which occurs at the end of

a predetermined interval of time. Chintalapati et al. teaches periodically invoking a process to

perform inspections indicates the use of a timeout condition to trigger the inspection. In order for

the process to be invoked after an elapsed period of time a timeout condition would therefore have

to occur.

In response to Applicant's argument that the examiner's conclusion of obviousness is based

upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a

sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into

account only knowledge which was within the level of ordinary skill at the time the claimed

invention was made, and does not include knowledge gleaned only from the applicant's disclosure,

such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

While the motivation used by the Examiner does appear in the background of Applicant's

disclosure it does not eliminate it as a valid motivation for combination as the claimed limitation

would have been obvious because a particular known technique (in this case the use of non-

blocking/asynchronous I/O operations in order to conserve resources) was recognized as part of

the ordinary capabilities of one skilled in the art, this argument is moot however since the

motivation does indeed appear in Chintalapati et al. (paragraph [0017], paragraph [0018]).

11.     Applicant argues with respect to claim 2 that Applicant has been unable to discover any

teaching of "an array configuration" and that the Examiner's inherency argument is misplaced.

The Examiner respectfully disagrees with Applicants argument as Applicant has

misinterpreted as to what matter the inherency was applied. Inherency was applied regarding a

reference to a connection and Official Notice was originally (now Brock et al.) applied to the use of

an array to store references to connections and associated timestamps. The connection pool of Batra

contains several connections therefore references to connections are inherent in the system. A

timestamp is associated with each of the connections (column 11 lines 45-54, column 12 lines 1-4

lines 12-16). Since each connection has an associated timestamp each element (connection) stored in

the stack (array) had both a reference to a connection and associated timestamp.

12.     Applicant argues with respect to claim 3 that last-in-first-out (LIFO) ordering of an array is

not of such a notorious character so as to be instantly and unquestionably recognized as "well

known" in the art. Applicant also argues that there is no motivation to combine.

The Examiner respectfully disagrees with Applicants argument that a LIFO ordering in not

well known in the art. Stacks (which are implemented using arrays or linked lists) are abstract data

types/data structures based on the principle of last-in-first-out and are well known in the art.

> Brock et al. (US Patent # US 7,076,556 B1) disclose: "Method and Apparatus for Storage

and Retrieval of Connection Data in a Communications System" in which connections are

stored in a LIFO stack arrangement (column 4 lines 16-17).

> Dale, Nell B. (ISBN 9780763704810) "C++ Data Structures" which shows in section 4.1 a

stack is defined as "An abstract data type in which elements are added and removed from

only one end; a "last-in-first-out (LIFO)" structure" also in Appendix E The Standard

Template Library where that a stack if accessed on a LIFO basis (A Stack, with the usual

LIFO access).

> Main, Michael (ISBN 0201702975) "Data Structures and Other Objects Using C++" which

shows in section 7.1 "A stack is a Last-In/First-Out data structure." and section 7.3, which

shows stacks, can be implemented using assays.

> Savitch, Walter (ISBN 0201357496) "Problem Solving with C++, The Object of

Programming" which shows in section 12.1 "A stack is a last-in/first-out memory structure".

In response to applicant's argument that there is no suggestion to combine the references,

the examiner recognizes that obviousness can only be established by combining or modifying the

teachings of the prior art to produce the claimed invention where there is some teaching, suggestion,

or motivation to do so found either in the references themselves or in the knowledge generally

available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir.

1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, last-in-first-out

(LIFO) ordering is notoriously well known and is knowledge generally available to one of ordinary

skill in the art.


### *Conclusion*

13.     **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time

policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS

from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the

mailing date of this final action and the advisory action is not mailed until after the end of the

THREE-MONTH shortened statutory period, then the shortened statutory period will expire on

the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be

calculated from the mailing date of the advisory action. In no event, however, will the statutory

period for reply expire later than SIX MONTHS from the mailing date of this final action.
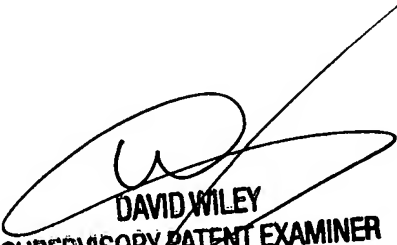
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel Murray whose telephone number is (571)-270-1773. The examiner can normally be reached on Monday - Friday 0800-1700 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wiley can be reached on (571)-272-3923. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

DCM

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